

Man's attitude towards the unknown — his philosophy in short — must influence his attitude towards botany as it will towards any science ; and since philosophy, like other lines of intellectual activity, changes and progresses, man's attitude towards science is not a fixed or rigid one. But it is not likely that philosophy will ever tend to discourage investigation, and investigation is the keynote of scientific progress. Unquestionably, the world demands research, and any fact no matter how humble, if accurately established, helps on the cause. Perhaps the time will come when our knowledge of to-day will seem as crude as that of yesterday now seems to us. Let not that concern us, except to urge us to do what we may in hastening this time, knowing that that is where real progress lies, and knowing too that there is ample work that can and must be done.

## A KEY TO THE WHITE AND BRIGHT-COLORED SESSILE POLYPOREAE OF TEMPERATE NORTH AMERICA—III\*

BY WILLIAM A. MURRILL

### K. THE SPECIES OF CORIOLUS

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|--|----|
| 1. Tubes more or less entire, at least until the sporophore is quite old.                              | 2  |
| Tubes soon breaking up into long irpiciform teeth.   | 19 |
| 2. Surface of pileus wholly or partly glabrous when mature or clothed only with inconspicuous hairs.   | 3  |
| Surface of pileus clothed entirely with a conspicuous, hairy covering.                                 | 17 |
| 3. Pileus not entirely glabrous at maturity.   | 4  |
| Pileus entirely glabrous at maturity.  | 13 |
| 4. Pileus marked at maturity with glabrous zones of a different color from the rest of the surface.    | 5  |
| Pileus not marked with glabrous zones, but nearly uniform in color and rarely shining.                 | 10 |
| 5. Glabrous zones large, numerous, conspicuously and variously colored.                                |    |
| <i>C. versicolor</i> (L.) Quéf.  |    |
| Glabrous zones small and comparatively inconspicuous.  | 6  |
| 6. Surface villose between the zones, which are late in appearing ; plants small, 1-2 cm. in diameter. |    |
| <i>C. hirsutulus</i> (Schw.) Murrill   |    |

\* This concludes the series of keys to the pileate species of polypores found in temperate North America. The resupinate species are more difficult, most of them requiring the facilities of a well-equipped herbarium, as well as considerable experience, for their proper determination.

- Surface minutely pubescent or tomentose between the zones; plants usually much larger. 7
7. Hymenium white or yellowish. 8  
Hymenium umbrinous or fuscous. 9
8. Tubes small, 5 to a mm., perfectly regular and entire. *C. ectypus* (B. & C.) Pat.  
Tubes twice as large, often irregular from splitting; glabrous zones late in appearing and sometimes absent. *C. pubescens* (Schum.) Murrill
9. Hymenium umbrinous; surface opaque, with very few zones.  
*C. alabamensis* Murrill  
Hymenium fuscous; surface shining, multizonate. *C. sector* (Ehrenb.) Pat.
10. Sporophore semiresupinate, narrowly reflexed. 11  
Sporophore normally pileate, sometimes decurrent. 12
11. Tubes 1 cm. or more in length. *C. subluteus* (E. & E.) Murrill  
Tubes only a few millimeters long, hexagonal, 1 mm. broad.  
*C. hexagoniformis* Murrill
12. Margin broadly sterile, the sterile zone about 2 mm. broad.  
*C. limitatus* (B. & C.) Murrill  
Margin fertile or narrowly sterile. *C. balsameus* (Peck) Murrill
13. Surface brown or blackish. *C. planellus* Murrill  
Surface white to isabelline. 14
14. Margin of pileus very thin, becoming fimbriate or lacerate at maturity.  
*C. Drummondii* (Kl.) Pat.  
Margin of pileus not as above. 15
15. Surface rough, scabrous; pileus rather small, usually cuneate.  
*C. Lloydii* Murrill  
Surface perfectly smooth between the zones; pileus fan-shaped. 16
16. Surface white to ochraceous, the zones deeper yellow. *C. ochrotinctellus* Murrill  
Surface isabelline with pale-latericeous zones. *C. concentricus* Murrill
17. Pileus 5 mm. or more thick, tubes small and regular. 18  
Pileus much thinner, tubes large and irregular. *C. sericeohirsutus* (Kl.) Murrill
18. Surface roughly hirsute. *C. nigromarginatus* (Schw.) Murrill  
Surface finely hirtose-tomentose. *C. subchartaceus* Murrill
19. Pileus large, 5-10 cm. broad, 5-10 mm. thick, fibrillose-tomentose to subglabrous; confined to deciduous wood. *C. bififormis* (Kl.) Murrill  
Pileus smaller and much thinner. 20
20. Surface ashy-white, villose, confined to coniferous wood.  
*C. abietinus* (Dicks.) Quél.  
Surface wood-colored, finely tomentose; usually found on deciduous wood.  
*C. prolificans* (Fr.) Murrill

## L. THE SPECIES OF CORIOLELLUS

1. Pileus white or pale-isabelline. 2  
Pileus cinereous-fuscous, glabrous. *C. Sequoiae* (Copeland) Murrill  
Pileus fulvous to latericeous, finely tomentose to minutely strigose.  
*C. serialis* (Fr.) Murrill
2. Surface conspicuously villose to strigose; context very soft and spongy.  
*C. cuneatus* Murrill  
Surface finely tomentose to glabrous; context firm. *C. Sepium* (Berk.) Murrill

## M. THE SPECIES OF AURANTIPORELLUS

Pileus soft, effused, orange-colored, 1-4 cm. thick.

*A. alboluteus* (E. & E.) Murrill

## N. THE SPECIES OF PYCNOPORELLUS

Pileus thin, dimidiate, orange-colored, friable when dry.

*P. fibrillosus* (Karst.) Murrill

## O. THE SPECIES OF PYCNOPORUS

i. Pileus thick, smooth, opaque.

*P. cinnabarinus* (Jacq.) Karst.

Pileus thin, often zonate, brilliant-red.

*P. sanguineus* (L.) Murrill

## P. THE SPECIES OF AURANTIPORUS

Pileus ochraceous or reddish-orange, tubes orange when fresh, becoming dark and resinous on drying.

*A. Pilotae* (Schw.) Murrill

## Q. THE SPECIES OF LAETIPORUS

Pileus large, yellow throughout, fragile when dry. *L. speciosus* (Batt.) Murrill

NEW YORK BOTANICAL GARDEN.

## TERATOLOGICAL NOTES

BY C. STUART GAGER

The following instances of structural abnormalities are not presented as contributions. Most of them have been reported before, and some of them often, either in the species here recorded, or in allied species. In complying with a request from the editor of *TORREYA* for an article on teratological observations, it was thought that those given below would be of popular interest, and it is hoped that the paper may stimulate further observations, especially on the part of amateur botanists.

*Polycotyly and Syncotyly in Onagra biennis.*—Seedlings of dicotyledonous species having three cotyledons are of frequent occurrence, and in "Die Mutationstheorie," de Vries describes such seedlings for *Oenothera Lamarckiana*, *O. laevifolia*, *O. lata*, and *O. rubrinervis*. In experimental pedigreed cultures he found the anomaly hereditary in less than three per cent. of the offspring of plants that possessed it. Fusion of the two cotyledons into one was figured by de Vries for *O. glauca*, and, in crossing half and middle races ("Die Mutationstheorie" 2 : 345), this was